MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on January 30, 2001. Those in attendance were:

Tim Rountree	State Bridge Design Engineer (Co-Chairman)
Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Ron Shaw	Lee Construction Company of Carolinas
Michael Dane	Dane Construction, Inc.
Greg Nelson	S. T. Wooten
Kevin Burns	R. E. Burns & Sons Co.
Ron Hancock	Area Bridge Construction Engineer
Mohammed Mulla	State Soils and Foundation Engineer
Greg Perfetti	Assistant State Bridge Design Engineer
Ricky Keith	Assistant State Bridge Design Engineer
Paul Lambert	Structure Design Project Engineer
Rob Woodruff	Structure Design Project Engineer
Gary Taylor	Soils and Foundation Engineer
Nilesh Surti	Soils and Foundation Engineer
Rodger Rochelle	Structure Design Project Design Engineer (Secretary)

The following items of business were discussed:

1. The minutes of the November 20, 2000 meeting were accepted.

2. *Update on MOT Shoring Trial Projects*

   Mr. Perfetti reported that, beginning with the July 2001 letting, the Department will be implementing a 1½:1 slope on a case-by-case basis. The focus will be to use the 1½:1 slope whenever possible to reduce the incidence of temporary shoring for the maintenance of traffic. Mr. Taylor intends that the 1½:1 temporary slope locations will be noted on the Traffic Control Plans. If it is determined that 1½:1 temporary slopes may be used throughout an entire project, this fact will be highlighted in a special provision.

3. *Standard Shoring Design Update*

   Mr. Rochelle distributed preliminary drawings for standard temporary shoring. The shoring options include fabric wall, cantilever sheet piling, and pile/lagging shoring with and without tiebacks. Mr. Taylor provided a status report on the development of these standard shoring designs and details. Regarding the fabric wall, the plans include two options for forming each lift, although the Contractor may use an alternate falsework method. Mr. Taylor will investigate the inclusion of welded wire fabric as a third option. The standard fabric wall details will tentatively cover walls up to 30 ft. high.

The Contractors present agreed that fabric walls should be paid for in terms of fabric and select material used in the wall. For this reason, fabric walls will be handled outside the scope of the rest of the shoring types. All other shoring types will continue to be paid for on a square foot of exposed face basis.

The cantilever sheeting and pile/lagging shoring standards will encompass walls up to 18 ft. high. The Soils and Foundation Section will select which standard drawing applies to each shoring location, in part based on backslope and water table conditions. For cantilever sheeting and soldier piles with lagging, the minimum section modulus and/or embedment depth will be displayed in terms of wall height.

If necessary, a standard drawing showing one row of tiebacks will be specified. When a tieback is required by the standard drawing, the option to drill and socket the pile into rock in lieu of the tieback will be available to the Contractor. Mr. Taylor explained that the free length of anchor will be provided on the plans but that the Contractor would determine the bond length beyond the free length and that a proof test would be required for each anchor. A drilled and grouted type anchor will be specified, but the Contractor may submit other types for review and approval.

The standard drawings are not intended to suffice in all cases. Submittals will still be allowed for alternate shoring details and in some cases changes in the scope of work may be required. Mr. Lambert noted, however, that even if a change in scope of work occurs, the Department may recommend a different standard drawing, thereby still reducing design and review effort.

The soil parameters will still be shown on the Traffic Control Plans. Additionally, one pay item will cover all types of shoring, excluding fabric walls. It was proposed that the pay item for the shoring be broken out per station. There is no intent to pay for tiebacks separately as the need for these will be reflected by the appropriate standard drawing identified for each location. Mr. Hancock stated that this approach is dependent on the ability to get more accurate and timely geotechnical information. Mr. Taylor assured the Committee that the Geotechnical Unit is working closely with the Soils and Foundation Section on this issue.

4. *Causeway Pay Item*

Mr. Rochelle distributed a draft special provision for temporary access. This provision would cover causeways, temporary work bridges, or any other method of access employed by the Contractors. Mr. Rochelle explained that if a causeway is detailed on the plans, the Contractor may use that causeway or build a temporary work bridge. If the work bridge option is used, the Contractor is responsible to prepare all documents required for permit modifications. The special provision also allows the Contractor flexibility in that neither a causeway or temporary work bridge is required. Instead, any other method of access may be used provided all permits are satisfied. The temporary access will be paid for on a lump sum basis and per station so that different methods of access may be used on projects with multiple bridges. Mr. Jenkins asked that all

Contractors present review the provision and submit any comments directly to Mr. Rochelle. Mr. Rochelle will present a final draft of the document at the next meeting, with implementation expected shortly thereafter.

5. *Barrier Rail Transition Update*

Mr. Rochelle distributed plan sheets for a trial project in Franklin County due to be let in April 2001. This project uses the barrier rail transition details that satisfy the FHWA's mandate to meet NCHRP 350 crash test requirements. The barrier rail will extend full length of the approach slab and transition from a New Jersey shape to a 9 inch flat face barrier. The rail on the approach slab will be paid for as part of the lump sum item for Bridge Approach Slabs.

Mr. Rochelle explained that, while we continue to pursue this barrier rail transition, an alternate guardrail attachment detail will be developed and submitted to the FHWA. If deemed satisfactory by the FHWA, the new details may be implemented in lieu of the current barrier rail transition details.

6. *Armored Evazote Joint Details*

Mr. Rochelle asked the Contractors about forming the joint width beneath the blockout for elastomeric concrete. Currently, the standard drawing requires the joint to be formed based on temperature. It has been suggested to revise this formed joint to be a standard width independent of temperature. Mr. Hancock stated that the standard joint width should be easier to construct. The standard drawing will be revised.

7. *Other*

i. *AGC on the Web*

Mr. Jenkins stated that the request has been made to post AGC material on a website in order to disseminate information regarding the efforts being made by the Committee. Mr. Rochelle distributed a handout of AGC material recently placed on the web. The Structure Design Unit website now contains a link to past AGC-DOT Committee minutes, current committee membership and contact numbers, as well as an agenda for the next meeting. Mr. Rochelle asked to discontinue transmitting the meeting minutes in favor of placing them directly on the web. Committee members were in favor of this approach. Mr. Rochelle will email all committee members as soon as the new minutes and agenda are posted for each meeting.

ii. *Next Meeting*

The next meeting is scheduled for March 27th at 10:00 am in the Structure Design Unit Conference Room C.